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# CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited on the date below with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Aimee Harrison  
Name of Person Mailing Paper: Aimee Harrison

1/25/05  
Date

PATENT

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial No.: 10/727,528  
Filed: December 5, 2003  
Applicant: Thomas Johnson et al.  
Art Unit: 2817  
Examiner: Michael B. Shingleton  
Title: REDUCED ARCHITECTURE FOR MULTIBRANCH  
FEEDFORWARD POWER AMPLIFIER LINEARIZERS  
Attorney Docket: ANCO-96US

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

## TRANSMITTAL

Enclosed is a Revocation and Power of Attorney and Change of Address for filing in the above-identified application.

Respectfully submitted,

WOOD, HERRON & EVANS, L.L.P.

BY C. Richard Eby

C. Richard Eby, Reg. No. 25,854

2700 Carew Tower  
Cincinnati, OH 45202  
(513) 241-2324  
(513) 241-6234 (Facsimile)  
reby@whepatent.com (Email)



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**REVOCATION AND POWER OF ATTORNEY  
AND CHANGE OF ADDRESS**

Sir:

Andrew Corporation, a Corporation organized and existing under the laws of Delaware, having its principal place of business at 10500 W. 153<sup>rd</sup> Street, Orland Park, Illinois, 60462, through the undersigned, hereby revokes all previous powers of attorney in the patent applications and patent listed below, and appoints the practitioners associated with the customer number 26,875, as its attorneys or agents, with full power of substitute and revocation, to prosecute the following patent applications and patent, and to transact all business in the Patent and Trademark Office connected therewith:

1.           Serial No.: 60/301,978  
              Title: CALIBRATION AND ADAPTATION OF A TWO BRANCH  
                      FEEDFORWARD AMPLIFIER CIRCUIT WITH A  
                      DECORRELATED BLOCK BASED LEAST MEAN SQUARE  
                      ALGORITHM  
              Filing Date: June 28, 2001
  
2.           Serial No.: 09/982,628  
              Patent No.: 6,734,731  
              Issue Date: May 11, 2004  
              Title: SELF-CALIBRATED POWER AMPLIFIER LINEARIZERS  
              Filing Date: October 18, 2001

3.           Serial No.: 10/780,628  
              Title: SELF-CALIBRATED POWER AMPLIFIER LINEARIZERS  
              Filing Date: February 19, 2004
4.           Serial No.: 09/982,626  
              Title: DECORRELATED POWER AMPLIFIER LINEARIZERS  
              Filing Date: October 18, 2001
5.           Serial No.: 10/727,528  
              Title: REDUCED ARCHITECTURE FOR MULTIBRANCH  
                      FEEDFORWARD POWER AMPLIFIER LINEARIZERS  
              Filing Date: December 5, 2003
6.           Serial No.: 10/780,658  
              Title: DECORRELATED POWER AMPLIFIER LINEARIZERS  
              Filing Date: February 19, 2004
7.           Serial No.: 10/793,811  
              Title: ADAPTIVE LINEARIZER FOR RF POWER AMPLIFIERS  
              Filing Date: March 8, 2004
8.           Serial No.: 07/511,722  
              Title: AMPLIFIER LINEARIZATION BY ADAPTIVE  
                      PREDISTORTION  
              Patent No.: 5,049,832  
              Issue Date: September 17, 1991  
              Filing Date: April 20, 1990
9.           Serial No.: 08/309,478  
              Title: ADAPTIVE FEEDFORWARD LINEARIZER FOR RF  
                      POWER AMPLIFIERS  
              Patent No.: 5,489,875  
              Issue Date: September 21, 1994  
              Filing Date: February 6, 1996

10.           Serial No.:   09/305,312  
              Title:       ADAPTIVE LINEARIZER FOR RF POWER AMPLIFIERS  
              Patent No.:  6,208,207  
              Issue Date:  March 27, 2001  
              Filing Date: May 5, 1999
  
11.           Serial No.:   09/758,349  
              Title:       ADAPTIVE LINEARIZER FOR REPOWER AMPLIFIERS  
              Patent No.:  6,414,546  
              Issue Date:  July 2, 2002  
              Filing Date: January 12, 2001
  
12.           Serial No.:   09/982,622  
              Title:       REDUCED ARCHITECTURE FOR MULTIBRANCH  
                              FEEDFORWARD POWER AMPLIFIER LINEARIZERS  
              Patent No.:  6,683,495  
              Issue Date:  January 27, 2004  
              Filing Date:  October 18, 2001
  
13.           Serial No.:   10/122,347  
              Title:       ADAPTIVE LINEARIZER FOR RF POWER AMPLIFIERS  
              Patent No.:  6,734,732  
              Issue Date:  May 11, 2004  
              Filing Date:  April 16, 2002

Andrew Corporation is the assignee of the entire right, title and interest in the patent applications and patent identified above by virtue of the assignment by the inventors and the prior assignee established as follows, and including the documents attached hereto as Exhibits 1, 2 and 3, respectively:

1.   Documentary evidence regarding the chain of title from the inventors to Simon Fraser University, recorded with the United States Patent and Trademark Office at various Reel/Frame numbers, as noted in Exhibit 1;
2.   An assignment from Simon Fraser University to BTG International Inc. are recorded with the United States Patent and Trademark Office on December 15, 2004 at Reel 015452, Frame 0159 (executed document included); and

3. An assignment from BTG International Inc. to Andrew Corporation was filed with the U.S. Patent and Trademark Office for recordation on December 17, 2004 (executed document included).

The undersigned has reviewed all the documents in the chain of title of the patent applications and patent identified above and, to the best of undersigned's knowledge and belief, title is in the assignee identified above.

The undersigned (whose title is supplied below) is empowered to sign this certificate on behalf of the assignee.

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further, that these statements are made with the knowledge that willful false statements, and the like so made, are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application(s) or any patent issuing thereon.

Send all correspondence to:

WOOD, HERRON & EVANS, L.L.P.  
2700 Carew Tower  
441 Vine Street  
Cincinnati, Ohio 45202  
Attn: Kurt A. Summe

Direct all telephone calls to:

Kurt A. Summe  
WOOD, HERRON & EVANS, L.L.P.  
(513) 241-2324

Assignee: ANDREW CORPORATION

By: James F. Petelle  
(Signature)

James F. Petelle  
Vice President, Law & Secretary

## EXHIBIT 1

### SIMON FRASER PATENTS AND PATENT APPLICATIONS

Patent or Appl. No.	Title	Recordation Date	Reel/Frame
5,049,832	Amplifier Linearization By Adaptive Predistortion	4/20/90	005290/0140
5,489,875	Adaptive Feedforward Linearizer RF Power Amplifier	9/21/94	007140/0468
6,208,207	Adaptive Linearizer for RF Power Amplifiers	9/28/99	010268/0631
6,414,546	Adaptive Linearizer for RF Power Amplifiers	9/28/99	010268/0631
6,734,732	Adaptive Linearizer for RF Power Amplifiers	9/28/99	010268/0631
10/793,811	Adaptive Linearizer for RF Power Amplifiers	9/28/99	010268/0631
6,683,495	Reduced Architecture For Multibranch Feedforward Power Amplifier Linearizers	2/22/02	012605/0177
10/727,628	Reduced Architecture For Multibranch Feedforward Power Amplifier Linearizers	2/22/02	012605/0177
6,734,731	Self-Calibrated Power Amplifier Linearizers	2/22/02	012605/0895
10/780,628	Self-Calibrated Power Amplifier Linearizers	2/22/02	012605/0895
09/982,626	Decorrelated Power Amplifier Linearizers	2/22/02	012605/0818
10/780,658	Decorrelated Power Amplifier Linearizers	2/22/02	012605/0818



EXHIBIT 2



UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office  
ASSISTANT SECRETARY AND COMMISSIONER  
OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231



\*700138166A\*

DECEMBER 15, 2004

PTAS

WOOD, HERRON & EVANS, LLP  
KURT A. SUMME  
441 VINE STREET  
CINCINNATI, OH 45202

UNITED STATES PATENT AND TRADEMARK OFFICE  
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 12/13/2004

REEL/FRAME: 015452/0159  
NUMBER OF PAGES: 6

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

SIMON FRASER UNIVERSITY

DOC DATE: 07/14/2004

ASSIGNEE:

BTG INTERNATIONAL INC.  
300 BARR HARBOUR DRIVE  
FIVE TOWER BRIDGE, 7TH FLOOR  
WEST CONSHOCKEN, PENNSYLVANIA

19428-2998

SERIAL NUMBER: 60301978

FILING DATE: 06/28/2001

PATENT NUMBER:

ISSUE DATE:

TITLE: CALIBRATION AND ADAPTATION OF A TWO BRANCH FEEDFORWARD AMPLIFIER  
CIRCUIT WITH A DECORRELATED BLOCK BASED LEAST MEAN SQUARE ALGORITHM



SERIAL NUMBER: 09982626	FILING DATE: 10/18/2001
PATENT NUMBER:	ISSUE DATE:
TITLE: DECORRELATED POWER AMPLIFIER LINEARIZERS	
SERIAL NUMBER: 10727528	FILING DATE: 12/05/2003
PATENT NUMBER:	ISSUE DATE:
TITLE: REDUCED ARCHITECTURE FOR MULTIBRANCH FEEDFORWARD POWER AMPLIFIER LINEARIZERS	
SERIAL NUMBER: 10780628	FILING DATE: 02/19/2004
PATENT NUMBER: 6831512	ISSUE DATE: 12/14/2004
TITLE: SELF-CALIBRATED POWER AMPLIFIER LINEARIZERS	
SERIAL NUMBER: 10780658	FILING DATE: 02/19/2004
PATENT NUMBER:	ISSUE DATE:
TITLE: DECORRELATED POWER AMPLIFIER LINEARIZERS	
SERIAL NUMBER: 10793811	FILING DATE: 03/08/2004
PATENT NUMBER:	ISSUE DATE:
TITLE: ADAPTIVE LINEARIZER FOR RF POWER AMPLIFIERS	
SERIAL NUMBER: 07511722	FILING DATE: 04/20/1990
PATENT NUMBER: 5049832	ISSUE DATE: 09/17/1991
TITLE: AMPLIFIER LINEARIZATION BY ADAPTIVE PREDISTORTION	
SERIAL NUMBER: 08309478	FILING DATE: 09/21/1994
PATENT NUMBER: 5489875	ISSUE DATE: 02/06/1996
TITLE: ADAPTIVE FEEDFORWARD LINEARIZER FOR RF POWER AMPLIFIERS	
SERIAL NUMBER: 09305312	FILING DATE: 05/05/1999
PATENT NUMBER: 6208207	ISSUE DATE: 03/27/2001
TITLE: ADAPTIVE LINEARIZER FOR RF POWER AMPLIFIERS	
SERIAL NUMBER: 09758349	FILING DATE: 01/12/2001
PATENT NUMBER: 6414546	ISSUE DATE: 07/02/2002
TITLE: ADAPTIVE LINEARIZER FOR RFPOWER AMPLIFIERS	
SERIAL NUMBER: 09982622	FILING DATE: 10/18/2001
PATENT NUMBER: 6683495	ISSUE DATE: 01/27/2004
TITLE: REDUCED ARCHITECTURE FOR MULTIBRANCH FEEDFORWARD POWER AMPLIFIER LINEARIZERS	
SERIAL NUMBER: 09982628	FILING DATE: 10/18/2001
PATENT NUMBER: 6734731	ISSUE DATE: 05/11/2004
TITLE: SELF-CALIBRATED POWER AMPLIFIER LINEARIZERS	
SERIAL NUMBER: 10122347	FILING DATE: 04/16/2002
PATENT NUMBER: 6734732	ISSUE DATE: 05/11/2004
TITLE: ADAPTIVE LINEARIZER FOR RF POWER AMPLIFIERS	

015452/0159 PAGE 3

KIMBERLY WHITE, EXAMINER  
ASSIGNMENT DIVISION  
OFFICE OF PUBLIC RECORDS

**ASSIGNMENT**  
**(Worldwide Rights)**

WHEREAS, **SIMON FRASER UNIVERSITY**, a non-profit organization of Burnaby, British Columbia, V5A 1S6, Canada, hereinafter generally referred to as "**ASSIGNOR**", is the owner of certain inventions for which Letters Patents have been issued and for which applications for Letters Patent are/were pending as set forth on Schedule A attached hereto;

WHEREAS, **BTG INTERNATIONAL INC.**, a corporation of Delaware, having an office and place of business at Five Tower Bridge, 300 Barr Harbor Drive, 7<sup>th</sup> Floor, West Conshohocken, Pennsylvania 19428-2998, hereinafter generally referred to as "**ASSIGNEE**", is desirous of acquiring an interest therein;

NOW, THEREFORE, in consideration of the sum of good and valuable executed consideration, the receipt and sufficiency of which are hereby acknowledged, the said **ASSIGNOR** hereby sells, assigns, and transfers unto the said **ASSIGNEE**, its successors, assigns, and legal representatives, **ASSIGNOR'S** entire right, title and interest in the United States of America and all foreign countries, in and to the invention and Letters Patents and/or applications for Letters Patents as described as set forth in Schedule A, and to all subsequent applications based thereon including any and all continuations, continuations-in-part, divisions, reissues and substitutes of said applications, and all resulting patents, together with the right of priority under the International Convention for the Protection of Industrial Property, Inter-American Convention Relating to Patents, Designs and Industrial Models, and any other international agreements to which the United States of America or any foreign country adheres; and the **ASSIGNOR** hereby authorizes and requests the Commissioner of Patents and Trademarks to issue said Letters Patent to **ASSIGNEE**, for its interest as **ASSIGNEE**, its successors, assigns, and legal representatives; and

**BEST AVAILABLE COPY**

ASSIGNOR hereby agrees to execute any papers by ASSIGNEE, its successors, assigns, and legal representatives, deemed essential to ASSIGNEE'S full protection and title in and to the invention hereby transferred; and

ASSIGNOR hereby agrees, upon request of ASSIGNEE, and without further remuneration, to execute any and all papers desired by ASSIGNEE, for the filing and granting of foreign applications and the perfecting of title thereto in ASSIGNEE.

IN TESTIMONY WHEREOF, We have hereunto set our hands.

By: [Signature] Date: 14 July 2004  
Name: M. C. VOLKER  
Title: DIRECTOR - UILO, SFU

PROVINCE OF B.C.  
STATE/Commonwealth of :  
City : ss  
COUNTY OF BURNABY :

Subscribed and sworn before me this 14 day of July, 2004  
[Signature]

Notary Public  
My Commission Expires: **Permanent Commission**

**LARRY FERENCE**  
Notary Public  
140 - 3386 North Road, Burnaby  
B.C. V3J 7T9 444-4556

NO LEGAL ADVICE SOUGHT  
NOR GIVEN

## SCHEDULE A

### UNITED STATES LETTERS PATENTS

5,049,832	Amplifier Linearization By Adaptive Predistortion
5,489,875	Adaptive Feedforward Linearizer RF Power Amplifiers
6,208,207	Adaptive Linearizer For RF Power Amplifiers
6,414,546	Adaptive Linearizer For RF Power Amplifiers
6,683,495	Reduced Architecture For Multibranch Feedforward Power Amplifier Linearizers
6,734,731	Self-Calibrated Power Amplifier Linearizers
6,734,732	Adaptive Linearizer For RF Power Amplifiers

### UNITED STATES PATENT APPLICATIONS

60/301,978	Filed 28 June 2001	Calibration And Adaptation Of A Two Branch Feedforward Amplifier Circuit With A Decorrelated Block Based Least Mean Square Algorithm
09/982,626	Filed 18 October 2001	Decorrelated Power Amplifier Linearizers
10/727,528	Filed 5 December 2003	Reduced Architecture For Multibranch Feedforward Power Amplifier Linearizers
10/780,628	Filed 19 February 2004	Self-Calibrated Power Amplifier Linearizers
10/780,658	Filed 19 February 2004	Decorrelated Power Amplifier Linearizers
10/793,811	Filed 8 March 2004	Adaptive Linearizer For RF Power Amplifiers

November 24, 2004

Simon Fraser University  
Burnaby, B.C.  
V5A 1S6 Canada



For the attention of: Teri Lydiard, Technology Manager, University/Industry Liaison,

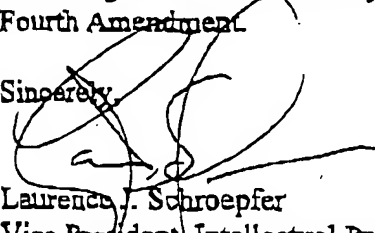
Dear Teri

**Re: Commercialization Agreement between BTG International Inc. and Simon Fraser University dated September 30, 1997 (the "Agreement")**

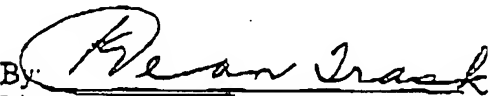
With respect to the above-mentioned Agreement, and more specifically the Fourth Amendment to the Agreement, BTG wishes to amend Schedule A of the Fourth Amendment to specify the EP application on the Schedule. The assignment under the Fourth Amendment was intended to include the EP application, however, it was not explicitly listed on the Schedule so for the purposes of clarity we request this amendment.

Please sign below to indicate your approval of listing the EP application on Schedule A to the Fourth Amendment.

Sincerely,

  
Laurence J. Schroepfer  
Vice President, Intellectual Property Transactions

SIMON FRASER UNIVERSITY

By:   
Director/Authorized Signatory  
University/Industry Liaison

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## **SCHEDULE A**

### **UNITED STATES LETTERS PATENTS**

5,049,832	Amplifier Linearization By Adaptive Predistortion
5,489,875	Adaptive Feedforward Linearizer RF Power Amplifiers
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6,414,546	Adaptive Linearizer For RF Power Amplifiers
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6,734,732	Adaptive Linearizer For RF Power Amplifiers

### **UNITED STATES PATENT APPLICATIONS**

60/301,978	Filed 28 June 2001	Calibration And Adaptation Of A Two Branch Feedforward Amplifier Circuit With A Decorrelated Block Based Least Mean Square Algorithm
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10/780,628	Filed 19 February 2004	Self-Calibrated Power Amplifier Linearizers
10/780,658	Filed 19 February 2004	Decorrelated Power Amplifier Linearizers
10/793,811	Filed 8 March 2004	Adaptive Linearizer For RF Power Amplifiers

### **EPO PATENT APPLICATION**

00926609.9	Filed 3 May 2000	Adaptive Linearizer for RF Power Amplifiers
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ASSIGNMENT

WHEREAS, **BTG INTERNATIONAL INC.**, a corporation of Delaware, having an office and place of business at Five Tower Bridge, 300 Barr Harbor Drive, 7<sup>th</sup> Floor, West Conshohocken, Pennsylvania 19428-2998, hereinafter generally referred to as "**ASSIGNOR**", is the owner of certain inventions for which Letters Patents have been issued and for which applications for Letters Patent are/were pending as set forth on Schedule A attached hereto;

WHEREAS, **ANDREW CORPORATION** a Delaware corporation with principal offices at 10500 West 153rd Street, Orland Park, Illinois 60462 hereinafter generally referred to as "**ASSIGNEE**", is desirous of acquiring an interest therein;

NOW, THEREFORE, in consideration of the sum of good and valuable executed consideration, the receipt and sufficiency of which are hereby acknowledged, the said **ASSIGNOR** hereby sells, assigns, and transfers unto the said **ASSIGNEE**, its successors, assigns, and legal representatives, **ASSIGNOR'S** entire right, title and interest in the United States of America and all foreign countries, in and to the invention and Letters Patents and/or applications for Letters Patents as described as set forth in Schedule A, and to all subsequent applications based thereon including any and all continuations, continuations-in-part, divisions, reissues and substitutes of said applications, and all resulting patents, together with the right of priority under the International Convention for the Protection of Industrial Property, Inter-American Convention Relating to Patents, Designs and Industrial Models, and any other international agreements to which the United States of America or any foreign country adheres; and the **ASSIGNOR** hereby authorizes and requests the Commissioner of Patents and Trademarks to issue said Letters Patent to **ASSIGNEE**, for its interest as **ASSIGNEE**, its successors, assigns, and legal representatives; and

**ASSIGNOR** hereby agrees to execute any papers by **ASSIGNEE**, its successors, assigns, and legal representatives, deemed essential to **ASSIGNEE'S** full protection and title in and to the invention hereby transferred; and

**BEST AVAILABLE COPY**



ASSIGNOR hereby agrees, upon request of ASSIGNEE, and without further remuneration, to execute any and all papers desired by ASSIGNEE, for the filing and granting of foreign applications and the perfecting of title thereto in ASSIGNEE.

## SCHEDULE A

### SIMON FRASER PATENTS

COUNTRY	PATENT NO.	TITLE
USA	5,049,832	Amplifier Linearization By Adaptive Predistortion
USA	5,489,875	Adaptive Feedforward Linearizer RF Power Amplifiers
USA	6,208,207	Adaptive Linearizer For RF Power Amplifiers
USA	6,414,546	Adaptive Linearizer For RF Power Amplifiers
USA	6,683,495	Reduced Architecture For Multibranch Feedforward Power Amplifier Linearizers
USA	6,734,731	Self-Calibrated Power Amplifier Linearizers
USA	6,734,732	Adaptive Linearizer For RF Power Amplifiers

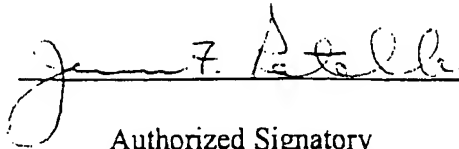
COUNTRY	SERIAL NO.	FILING DATE	TITLE
USA	60/301,978	28 June 2001	Calibration And Adaptation Of A Two Branch Feedforward Amplifier Circuit With A Decorrelated
USA	09/982,626	18 October 2001	Decorrelated Power Amplifier Linearizers
USA	10/727,528	5 December 2003	Reduced Architecture For Multibranch Feedforward Power Amplifier Linearizers
USA	10/780,628	19 February 2004	Self-Calibrated Power Amplifier Linearizers
USA	10/780,658	19 February 2004	Decorrelated Power Amplifier Linearizers
USA	10/793,811	8 March 2004	Adaptive Linearizer For RF Power Amplifiers
EPO	00926609.9	3 May 2000	Adaptive Linearizer For RF Power Amplifiers

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IN TESTIMONY WHEREOF, We have hereunto set our hands.

Date: ~~November~~ 2004

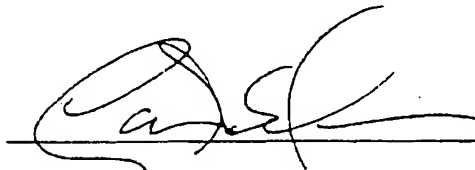
December 6,



Authorized Signatory  
ANDREW CORPORATION

Signed at

Date: <sup>30</sup>November, 2004



Authorized Signatory  
BTG INTERNATIONAL INC.

Signed at

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